

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

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Application No.: 10/748,774

Filed: December 30, 2003

For: METHOD AND SYSTEM FOR EMPLOYING  
A HIERARCHICAL MONITOR TREE FOR  
MONITORING SYSTEM RESOURCES IN A  
DATA PROCESSING ENVIRONMENT

Examiner: Musa, Abdelnabi O.

Art Unit: 2446

Confirmation No.: 8721

Attorney Docket No.: 6570P044

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**PROPOSED AMENDMENT ONLY**

## **PROPOSED LISTING OF CLAIMS**

1. **(Currently Amended)** A method for monitoring one or more resources by a monitoring architecture, the method comprising:

assigning each of a plurality of runtime beans to the respective one or more of a plurality of resources to be monitored, wherein each of the plurality of runtime beans to provide monitoring information regarding each of the respective one or more resources to a monitor bean associated with the runtime bean assigned to the respective resource, the monitor bean being one of a plurality of monitor beans in the monitoring architecture;

arranging the plurality of monitor beans into a hierarchical tree structure, wherein each of the monitor beans to receive the monitoring information regarding the resource to be monitored from the runtime bean assigned to the monitor bean, and wherein each of the plurality of monitor beans in the hierarchical tree structure to be individually represented as a tree node of the hierarchical tree structure;

continuous monitoring, in real-time, the plurality of resources via the plurality of runtime beans respectively assigned to the plurality of resources;

registering ~~each of~~ the monitor beans as a cluster by a server of the monitoring architecture, wherein the server to serve as a single point of entry for calling each of the plurality of runtime and monitor beans; and

receiving by the server of the monitoring architecture the continuous monitoring information from the plurality of runtime beans at predetermined periodic time periods, wherein the tree node associated with each monitor bean within the hierarchical tree structure provides individual reporting of the corresponding resource based on the monitoring information received by the monitor bean represented by the tree node,

wherein the monitoring information includes a current monitoring status and a monitoring history of the plurality of resources, wherein the current monitoring status includes a color-coded indication of at least one of status of a resource

being monitored among the plurality of resources, wherein the color-coded indication indicates whether the resource is being continuously monitored.

2. (Previously Presented) The method of claim 1, further comprising:  
receiving a notification from the runtime beans signaling availability of the monitoring information; and  
requesting the monitoring information from the runtime beans in response to receiving the notification.
3. **(Currently Amended)** The method of claim 1, further comprising:  
receiving a timer notification from a timer indicating availability of the monitoring information; and  
requesting the monitoring information from the runtime beans in response to receiving the timer notification, wherein the timer notification is based on the predetermined time periods.
4. (Cancelled).
5. (Previously Presented) The method of claim 1, wherein the plurality of resources include one or more of Advanced Business Application Programming (ABAP) resources associated with an ABAP engine, Java resources associated with a Java 2 Platform Enterprise Edition (J2EE) engine, kernel service resources, kernel interface resources, and kernel library resources.
6. (Cancelled).
7. (Previously Presented) The method of claim 1, further comprising communicatively interfacing the hierarchical tree structure with a central database and one or more client-level applications using a monitor service.

8-10. (Cancelled).

11. (Previously Presented) The method of claim 1, further comprising displaying the monitoring information via a monitor viewer.

12. (Previously Presented) The method of claim 11, wherein the monitor viewer includes one or more of a customized visual administrator monitor viewer, a Web-based monitor viewer, and a Graphical User Interface (GUI)-based monitor viewer.

13. (Cancelled).

14. (**Currently Amended**) The method of claim [[13]] 1, wherein the ~~current monitoring status includes a color-coded indication of at least one of status of a resource being monitored among the plurality of resources;~~ wherein the color-coded indication further indicates the resource is nearing a specified event. ~~critical value.~~

15. (Previously Presented) The method of claim 13, wherein the monitoring history includes monitoring history of the plurality of resources that is collected over a predetermined time period.

16-34. (Cancelled).

35. (**Currently Amended**) A monitoring system comprising:  
an application server having a processor and a storage medium coupled with the processor via a bus, the application server to:  
assign each of a plurality of runtime beans to a respective one or more of a plurality of resources to be monitored, wherein each of the plurality of runtime beans to provide monitoring information regarding each of the respective one or more

resources to a monitor bean associated with the runtime bean assigned to the resource, the monitor bean being one of a plurality of monitor beans communicably interfaced with the application server;

arrange the plurality of monitor beans into a hierarchical tree structure, wherein each of the monitor beans to receive the monitoring information regarding the resource to be monitored from the runtime bean assigned to the monitor bean, and wherein each of the plurality of monitor beans in the hierarchical tree structure to be individually represented as a tree node of the hierarchical tree structure;

continuously monitor, in real-time, the plurality of resources via the plurality of runtime beans respectively assigned to the plurality of resources;

register ~~each of~~ the monitor beans as a cluster by a server of the monitoring architecture, wherein the server to serve as a single point of entry for calling each of the plurality of runtime and monitor beans; and

receive the continuous monitoring information from the plurality of runtime beans at predetermined periodic time periods, wherein the tree node associated with each monitor bean within the hierarchical tree structure provides individual reporting of the corresponding resource based on the monitoring information received by the monitor bean represented by the tree node,

wherein the monitoring information includes a current monitoring status and a monitoring history of the plurality of resources, wherein the current monitoring status includes a color-coded indication of at least one of status of a resource being monitored among the plurality of resources, wherein the color-coded indication indicates whether the resource is being continuously monitored.

36. (Previously Presented) The system of claim 35, wherein the application server is further to communicably interface the hierarchical tree structure with a central database and one or more client-level applications using a monitor service.

37. (Previously Presented) The system of claim 36, wherein the one or more client-level

applications include one or more of a computing center management system, administrative tools, and third party tools.

38. (Cancelled).

39. (Previously Presented) The system of claim 35, wherein the administrative tools include a monitor viewer to display the monitoring information, wherein the monitor viewer includes a customized visual administrator monitor viewer, a Web-based monitor viewer, and a Graphical User Interface (GUI) based monitor viewer.

40-43. (Cancelled).

44. (**Currently Amended**) A machine-readable storage medium having instructions stored thereon which, when executed, cause a machine to perform a method, for monitoring one or more resources, the method comprising:  
assigning each of a plurality of runtime beans to the respective one or more of a plurality of resources to be monitored, wherein each of the plurality of runtime beans to provide monitoring information regarding each of the respective one or more resources to a monitor bean associated with the runtime bean assigned to the resource, the monitor bean being one of a plurality of monitor beans communicably interfaced with the machine;  
arranging the plurality of monitor beans into a hierarchical tree structure, wherein each of the monitor beans to receive the monitoring information regarding the resource to be monitored from the runtime bean assigned to the monitor bean, and wherein each of the plurality of monitor beans in the hierarchical tree structure to be individually represented as a tree node of the hierarchical tree structure;  
continuous monitoring, in real-time, the plurality of resources via the plurality of runtime beans respectively assigned to the plurality of resources;

registering ~~each of~~ the monitor beans as a cluster by a server of the monitoring architecture, wherein the server to serve as a single point of entry for calling each of the plurality of runtime and monitor beans; and  
receiving the continuous monitoring information from the plurality of runtime beans at predetermined periodic time periods, wherein the tree node associated with each monitor bean within the hierarchical tree structure provides individual reporting of the corresponding resource based on the monitoring information received by the monitor bean represented by the tree node,  
wherein the monitoring information includes a current monitoring status and a monitoring history of the plurality of resources, wherein the current monitoring status includes a color-coded indication of at least one of status of a resource being monitored among the plurality of resources, wherein the color-coded indication indicates whether the resource is being continuously monitored.

45. **(Currently Amended)** The machine-readable storage medium of claim 44, wherein the instructions which, when executed, further cause the machine to perform the method comprising:  
receiving a notification from the runtime beans signaling availability of the monitoring information; and  
requesting the monitoring information from the runtime beans in response to receiving the notification, wherein the notification is based on the predetermined time periods.

46. **(Currently Amended)** The machine-readable storage medium of claim 44, wherein the instructions which, when executed, further cause the machine to perform the method comprising:  
receiving a timer notification from a timer indicating availability of the monitoring information; and  
requesting the monitoring information from the runtime beans in response to receiving

the timer notification, wherein the timer notification is based on the predetermined time periods.

47-53. (Cancelled).

54. (Previously Presented) The machine-readable storage medium of claim 44, wherein the instructions which, when executed, further cause the machine to perform the method comprising:

displaying the monitoring information via a monitor viewer.

55. (Previously Presented) The machine-readable storage medium of claim 54, wherein the monitor viewer includes one or more of a customized visual administrator monitor viewer, a Web-based monitor viewer, and a Graphical User Interface (GUI) based monitor viewer.

56-66. (Cancelled).

67. (Previously Presented) The machine-readable storage medium of claim 44, wherein each of the plurality of monitor beans in the hierarchical tree structure represented as a tree node of the hierarchical tree structure to individually report the monitoring information regarding the resource to be monitored from the runtime bean associated with the monitor bean.

68. (Previously Presented) The system of claim 35, wherein each of the plurality of monitor beans in the hierarchical tree structure represented as a tree node of the hierarchical tree structure to individually report the monitoring information regarding the resource to be monitored from the runtime bean associated with the monitor bean.

69. (Previously Presented) The method of claim 1 further comprising:



retrieving a file having semantics and directives, wherein the semantics and directives for arranging the plurality of monitor beans into the hierarchical tree structure.

70. (Previously Presented) The method of claim 1 further comprising:

communicating the continuous monitoring information to a visual administrator for display.

71. (Previously Presented) The system of claim 35, wherein the application server to retrieve a file having semantics and directives, wherein the semantics and directives for arranging the plurality of monitor beans into the hierarchical tree structure.

72. (Previously Presented) The system of claim 35, wherein the application server to communicate the continuous monitoring information to a visual administrator for display.

73. (Previously Presented) The machine-readable storage medium of claim 44, wherein the instructions which, when executed, further cause the machine to perform the method comprising:

retrieving a file having semantics and directives, wherein the semantics and directives for arranging the plurality of monitor beans into the hierarchical tree structure.

74. (Previously Presented) The machine-readable storage medium of claim 44, wherein the instructions which, when executed, further cause the machine to perform the method comprising:

communicating the continuous monitoring information to a visual administrator for display.